

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/525,113

Source: pg 1/10

Date Processed by STIC: 3/2/05

# ***ENTERED***



PCT

## RAW SEQUENCE LISTING

DATE: 03/02/2005

PATENT APPLICATION: US/10/525,113

TIME: 12:55:10

Input Set : A:\MER-138SEQ.TXT

Output Set: N:\CRF4\03022005\J525113.raw

```

4 <110> APPLICANT: MERCK PATENT GMBH
5     CARR, Francis J.
6     BAKER, Matthew
7     CARTER, Graham
9 <120> TITLE OF INVENTION: T-CELL EPITOPES IN STAPHYLOCOCCAL
10    ENTEROTOXIN B
12 <130> FILE REFERENCE: MER-138
C--> 14 <140> CURRENT APPLICATION NUMBER: US/10/525,113
C--> 14 <141> CURRENT FILING DATE: 2005-02-18
14 <150> PRIOR APPLICATION NUMBER: PCT/EP2003/009116
15 <151> PRIOR FILING DATE: 2003-08-18
17 <150> PRIOR APPLICATION NUMBER: EP 02018229.1
18 <151> PRIOR FILING DATE: 2002-08-21
20 <160> NUMBER OF SEQ ID NOS: 84
22 <170> SOFTWARE: FastSEQ for Windows Version 4.0
24 <210> SEQ ID NO: 1
25 <211> LENGTH: 239
26 <212> TYPE: PRT
27 <213> ORGANISM: Staphylococcus aureus
29 <400> SEQUENCE: 1
30 Glu Ser Gln Pro Asp Pro Lys Pro Asp Glu Leu His Lys Ser Ser Lys
31 1          5          10          15
32 Phe Thr Gly Leu Met Glu Asn Met Lys Val Leu Tyr Asp Asp Asn His
33          20          25          30
34 Val Ser Ala Ile Asn Val Lys Ser Ile Asp Gln Phe Leu Tyr Phe Asp
35          35          40          45
36 Leu Ile Tyr Ser Ile Lys Asp Thr Lys Leu Gly Asn Tyr Asp Asn Val
37          50          55          60
38 Arg Val Glu Phe Lys Asn Lys Asp Leu Ala Asp Lys Tyr Lys Asp Lys
39          65          70          75          80
40 Tyr Val Asp Val Phe Gly Ala Asn Tyr Tyr Tyr Gln Cys Tyr Phe Ser
41          85          90          95
42 Lys Lys Thr Asn Asp Ile Asn Ser His Gln Thr Asp Lys Arg Lys Thr
43          100         105         110
44 Cys Met Tyr Gly Gly Val Thr Glu His Asn Gly Asn Gln Leu Asp Lys
45          115         120         125
46 Tyr Arg Ser Ile Thr Val Arg Val Phe Glu Asp Gly Lys Asn Leu Leu
47          130         135         140
48 Ser Phe Asp Val Gln Thr Asn Lys Lys Lys Val Thr Ala Gln Glu Leu
49          145         150         155         160
50 Asp Tyr Leu Thr Arg His Tyr Leu Val Lys Asn Lys Lys Leu Tyr Glu
51          165         170         175
52 Phe Asn Asn Ser Pro Tyr Glu Thr Gly Tyr Ile Lys Phe Ile Glu Asn

```

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```

53          180          185          190
54 Glu Asn Ser Phe Trp Tyr Asp Met Met Pro Ala Pro Gly Asp Lys Phe
55          195          200          205
56 Asp Gln Ser Lys Tyr Leu Met Met Tyr Asn Asp Asn Lys Met Val Asp
57          210          215          220
58 Ser Lys Asp Val Lys Ile Glu Val Tyr Leu Thr Thr Lys Lys Lys
59 225          230          235
62 <210> SEQ ID NO: 2
63 <211> LENGTH: 21
64 <212> TYPE: PRT
65 <213> ORGANISM: Staphylococcus aureus
67 <400> SEQUENCE: 2
68 Lys Phe Thr Gly Leu Met Glu Asn Met Lys Val Leu Tyr Asp Asp Asn
69 1          5          10          15
70 His Val Ser Ala Ile
71          20
74 <210> SEQ ID NO: 3
75 <211> LENGTH: 24
76 <212> TYPE: PRT
77 <213> ORGANISM: Staphylococcus aureus
79 <400> SEQUENCE: 3
80 Gln Phe Leu Tyr Phe Asp Leu Ile Tyr Ser Ile Lys Asp Thr Lys Leu
81 1          5          10          15
82 Gly Asn Tyr Asp Asn Val Arg Val
83          20
86 <210> SEQ ID NO: 4
87 <211> LENGTH: 33
88 <212> TYPE: PRT
89 <213> ORGANISM: Staphylococcus aureus
91 <400> SEQUENCE: 4
92 Asn Lys Asp Leu Ala Asp Lys Tyr Lys Asp Lys Tyr Val Asp Val Phe
93 1          5          10          15
94 Gly Ala Asn Tyr Tyr Tyr Gln Cys Tyr Phe Ser Lys Lys Thr Asn Asp
95          20          25          30
96 Ile
100 <210> SEQ ID NO: 5
101 <211> LENGTH: 239
102 <212> TYPE: PRT
103 <213> ORGANISM: Artificial Sequence
105 <220> FEATURE:
106 <223> OTHER INFORMATION: Modified enterotoxin protein
W--> 108 <221> NAME/KEY: VARIANT
109 <222> LOCATION: 21,24,28
110 <223> OTHER INFORMATION: Xaa=Ala, Gly, Pro, or Met
111          Xaa=Ala, Gly, Pro, or Met
112          Xaa=Thr, Ala, Asp, Glu, Gly, His, Lys, Asn, Pro,
113          Gln, Arg, Ser, or Tyr
W--> 115 <221> VARIANT
116 <222> LOCATION: 53,58

```

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```

117 <223> OTHER INFORMATION: Xaa=Ala or Ile
118     Xaa=His or Leu
W--> 120 <221> VARIANT
121 <222> LOCATION: 81✓
122 <223> OTHER INFORMATION: Xaa=Thr, Ala, Asp, Glu, Gly, His, Lys, Asn, Pro,
123     Gln, Arg, Ser, or Tyr
W--> 125 <221> VARIANT
126 <222> LOCATION: 82, 84, 85~
127 <223> OTHER INFORMATION: Xaa=His or Val
128     Xaa=Ala, Pro, Gly, or Val
129     Xaa=Thr, His, or Phe
W--> 131 <400> 5
132 Glu Ser Gln Pro Asp Pro Lys Pro Asp Glu Leu His Lys Ser Ser Lys
133 1          5          10          15
W--> 134 Phe Thr Gly Leu Xaa Glu Asn Xaa Lys Val Leu Xaa Asp Asp Asn His
135          20          25          30
136 Val Ser Ala Ile Asn Val Lys Ser Ile Asp Gln Phe Leu Tyr Phe Asp
137          35          40          45
138 Leu Ile Tyr Ser Xaa Lys Asp Thr Lys Xaa Gly Asn Tyr Asp Asn Val
139          50          55          60
140 Arg Val Glu Phe Lys Asn Lys Asp Leu Ala Asp Lys Tyr Lys Asp Lys
141 65          70          75          80
142 Xaa Xaa Asp Xaa Xaa Gly Ala Asn Tyr Tyr Tyr Gln Cys Tyr Phe Ser
143          85          90          95
144 Lys Lys Thr Asn Asp Ile Asn Ser His Gln Thr Asp Lys Arg Lys Thr
145          100         105         110
146 Cys Met Tyr Gly Gly Val Thr Glu His Asn Gly Asn Gln Leu Asp Lys
147          115         120         125
148 Tyr Arg Ser Ile Thr Val Arg Val Phe Glu Asp Gly Lys Asn Leu Leu
149          130         135         140
150 Ser Phe Asp Val Gln Thr Asn Lys Lys Lys Val Thr Ala Gln Glu Leu
151 145         150         155         160
152 Asp Tyr Leu Thr Arg His Tyr Leu Val Lys Asn Lys Lys Leu Tyr Glu
153          165         170         175
154 Phe Asn Asn Ser Pro Tyr Glu Thr Gly Tyr Ile Lys Phe Ile Glu Asn
155          180         185         190
156 Glu Asn Ser Phe Trp Tyr Asp Met Met Pro Ala Pro Gly Asp Lys Phe
157          195         200         205
158 Asp Gln Ser Lys Tyr Leu Met Met Tyr Asn Asp Asn Lys Met Val Asp
159          210         215         220
160 Ser Lys Asp Val Lys Ile Glu Val Tyr Leu Thr Thr Lys Lys Lys
161 225         230         235
164 <210> SEQ ID NO: 6
165 <211> LENGTH: 12
166 <212> TYPE: PRT
167 <213> ORGANISM: Staphylococcus aureus
169 <400> SEQUENCE: 6
170 Pro Lys Tyr Val Lys Gln Asn Thr Leu Lys Leu Ala
171 1          5          10

```

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DATE: 03/02/2005

PATENT APPLICATION: US/10/525,113

TIME: 12:55:10

Input Set : A:\MER-138SEQ.TXT

Output Set: N:\CRF4\03022005\J525113.raw

```

174 <210> SEQ ID NO: 7
175 <211> LENGTH: 15
176 <212> TYPE: PRT
177 <213> ORGANISM: Staphylococcus aureus
179 <400> SEQUENCE: 7
180 Lys Val Val Asp Gln Ile Lys Lys Ile Ser Lys Pro Val Gln His
181 1 5 10 15
184 <210> SEQ ID NO: 8
185 <211> LENGTH: 15
186 <212> TYPE: PRT
187 <213> ORGANISM: Staphylococcus aureus
189 <400> SEQUENCE: 8
190 Glu Ser Gln Pro Asp Pro Lys Pro Asp Glu Leu His Lys Ser Ser
191 1 5 10 15
194 <210> SEQ ID NO: 9
195 <211> LENGTH: 15
196 <212> TYPE: PRT
197 <213> ORGANISM: Staphylococcus aureus
199 <400> SEQUENCE: 9
200 Pro Asp Pro Lys Pro Asp Glu Leu His Lys Ser Ser Lys Phe Thr
201 1 5 10 15
204 <210> SEQ ID NO: 10
205 <211> LENGTH: 15
206 <212> TYPE: PRT
207 <213> ORGANISM: Staphylococcus aureus
209 <400> SEQUENCE: 10
210 Lys Pro Asp Glu Leu His Lys Ser Ser Lys Phe Thr Gly Leu Met
211 1 5 10 15
214 <210> SEQ ID NO: 11
215 <211> LENGTH: 15
216 <212> TYPE: PRT
217 <213> ORGANISM: Staphylococcus aureus
219 <400> SEQUENCE: 11
220 Glu Leu His Lys Ser Ser Lys Phe Thr Gly Leu Met Glu Asn Met
221 1 5 10 15
224 <210> SEQ ID NO: 12
225 <211> LENGTH: 15
226 <212> TYPE: PRT
227 <213> ORGANISM: Staphylococcus aureus
229 <400> SEQUENCE: 12
230 Lys Ser Ser Lys Phe Thr Gly Leu Met Glu Asn Met Lys Val Leu
231 1 5 10 15
234 <210> SEQ ID NO: 13
235 <211> LENGTH: 15
236 <212> TYPE: PRT
237 <213> ORGANISM: Staphylococcus aureus
239 <400> SEQUENCE: 13
240 Lys Phe Thr Gly Leu Met Glu Asn Met Lys Val Leu Tyr Asp Asp
241 1 5 10 15

```

## RAW SEQUENCE LISTING

DATE: 03/02/2005

PATENT APPLICATION: US/10/525,113

TIME: 12:55:10

Input Set : A:\MER-138SEQ.TXT

Output Set: N:\CRF4\03022005\J525113.raw

```

244 <210> SEQ ID NO: 14
245 <211> LENGTH: 15
246 <212> TYPE: PRT
247 <213> ORGANISM: Staphylococcus aureus
249 <400> SEQUENCE: 14
250 Gly Leu Met Glu Asn Met Lys Val Leu Tyr Asp Asp Asn His Val
251 1 5 10 15
254 <210> SEQ ID NO: 15
255 <211> LENGTH: 15
256 <212> TYPE: PRT
257 <213> ORGANISM: Staphylococcus aureus
259 <400> SEQUENCE: 15
260 Glu Asn Met Lys Val Leu Tyr Asp Asp Asn His Val Ser Ala Ile
261 1 5 10 15
264 <210> SEQ ID NO: 16
265 <211> LENGTH: 15
266 <212> TYPE: PRT
267 <213> ORGANISM: Staphylococcus aureus
269 <400> SEQUENCE: 16
270 Lys Val Leu Tyr Asp Asp Asn His Val Ser Ala Ile Asn Val Lys
271 1 5 10 15
274 <210> SEQ ID NO: 17
275 <211> LENGTH: 15
276 <212> TYPE: PRT
277 <213> ORGANISM: Staphylococcus aureus
279 <400> SEQUENCE: 17
280 Tyr Asp Asp Asn His Val Ser Ala Ile Asn Val Lys Ser Ile Asp
281 1 5 10 15
284 <210> SEQ ID NO: 18
285 <211> LENGTH: 15
286 <212> TYPE: PRT
287 <213> ORGANISM: Staphylococcus aureus
289 <400> SEQUENCE: 18
290 Asn His Val Ser Ala Ile Asn Val Lys Ser Ile Asp Gln Phe Leu
291 1 5 10 15
294 <210> SEQ ID NO: 19
295 <211> LENGTH: 15
296 <212> TYPE: PRT
297 <213> ORGANISM: Staphylococcus aureus
299 <400> SEQUENCE: 19
300 Ser Ala Ile Asn Val Lys Ser Ile Asp Gln Phe Leu Tyr Phe Asp
301 1 5 10 15
304 <210> SEQ ID NO: 20
305 <211> LENGTH: 15
306 <212> TYPE: PRT
307 <213> ORGANISM: Staphylococcus aureus
309 <400> SEQUENCE: 20
310 Asn Val Lys Ser Ile Asp Gln Phe Leu Tyr Phe Asp Leu Ile Tyr
311 1 5 10 15

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/525,113

DATE: 03/02/2005  
TIME: 12:55:11

Input Set : A:\MER-138SEQ.TXT  
Output Set: N:\CRF4\03022005\J525113.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:5; Xaa Pos. 21, 24, 28, 53, 58, 81, 82, 84, 85

## VERIFICATION SUMMARY

DATE: 03/02/2005

PATENT APPLICATION: US/10/525,113

TIME: 12:55:11

Input Set : A:\MER-138SEQ.TXT

Output Set: N:\CRF4\03022005\J525113.raw

L:14 M:270 C: Current Application Number differs, Replaced Current Application No  
L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:108 M:281 W: Numeric Fields not Ordered, <221> Sort in ascending order!  
L:115 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5  
L:120 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5  
L:125 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5  
L:131 M:258 W: Mandatory Feature missing, <220> Tag not found for SEQ ID#:5  
L:134 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:16  
M:341 Repeated in SeqNo=5